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Conference Program

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Argonne NATIONAL LABORATORY

ESF
State University of New York
College of Environmental Science and Forestry

November 7-9, 2017, Argonne National Laboratory, Lemont, IL 60439

Visual Resource Stewardship Conference: Landscape and Seascape Management in a Time of Change

November 7-9, 2017
Argonne National Laboratory
Lemont, IL 60439
Advanced Photon Source (APS) Conference Center
Building 402
http://vrconference.evs.anl.gov
vrconference@anl.gov

Please join us as we come together as a community to share ideas and discuss the issues we face in protecting visual resources in an era of major landscape change, and at the dawn of unprecedented change to our national seascapes.

Registration is open.

The registration form is at http://vrconference.evs.anl.gov.

The registration fee is $200 (USD), $50 for students.

CONFERENCE STEERING COMMITTEE

Robert Sullivan, Argonne National Laboratory (Chair)

Paul Gobster, U.S. Department of Agriculture, Forest Service

John McCarty, U.S. Department of Interior, Bureau of Land Management

Mark Meyer, U.S. Department of Interior, National Park Service

James Palmer, Scenic Quality Consultants

Rick Smardon, State University of New York

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Getting Around Campus

Argonne NATIONAL LABORATORY

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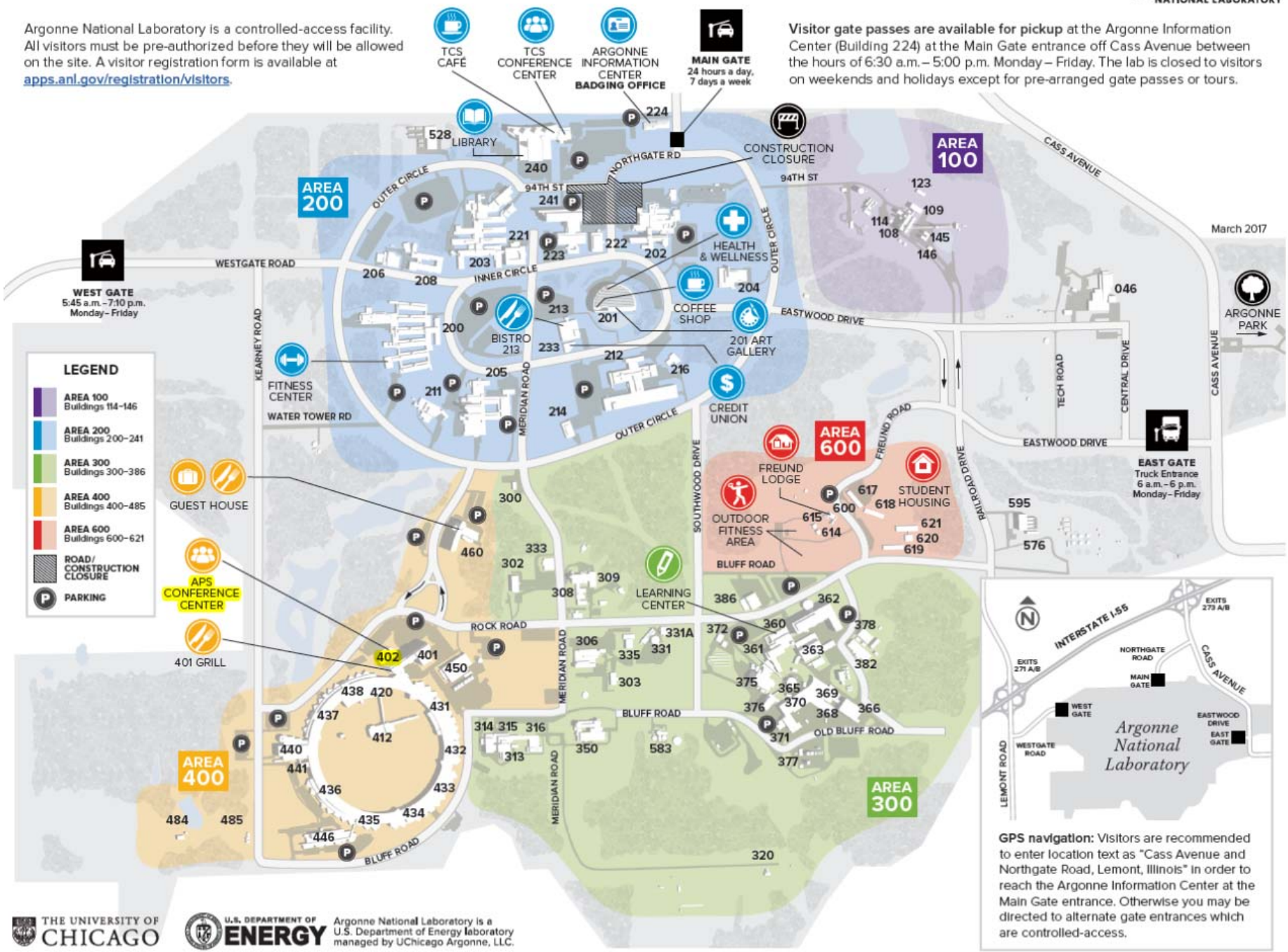

GPS navigation: Visitors are recommended to enter location text as "Cass Avenue and Northgate Road, Lemont, Illinois" in order to reach the Argonne Information Center at the Main Gate entrance. Otherwise you may be directed to alternate gate entrances which are controlled-access.

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GETTING TO ARGONNE

Argonne is easily accessible by car or public transportation from downtown Chicago, as well as from Chicago's two airports. To reach Argonne from **O'Hare International Airport**, take I-294 south to I-55. Exit west on I-55 (toward St. Louis) and continue for about four miles to Cass Avenue. Exit south on Cass and turn right at the Argonne sign on Northgate Road, immediately south of I-55. Follow Northgate Road to the Argonne Information Center.

To reach Argonne from **Midway Airport**, take Cicero Avenue north to I-55. Enter I-55 south and continue for about 14 miles to Cass Avenue. Exit south on Cass and turn right at the Argonne sign on Northgate Road, immediately south of I-55. Follow Northgate Road to the **Argonne Information Center (Building 224).**

Please note: If using GPS directions, use 9700 S. Cass Avenue, Lemont, IL 60439 as the address (Argonne, IL is not recognized as the correct address).

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A valid driver's license is required to pick up your visitors pass at the visitors center. In addition, Argonne accepts the following alternate access control options:

- U.S. passport
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- All federally issued identification
- All HSPD-12 cards
- All photo IDs from other DOE/NNSA Laboratories

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The Visual Resource Stewardship Conference will be held in the APS Conference Center in Building 402. Building 402 is highlighted in yellow in the "Area 400" portion of the Argonne map (Page 4).

VISUAL RESOURCE STEWARDSHIP CONFERENCE PROGRAM

Tuesday, November 07, 2017

7:30 am to 8:30 am	Registration (APS Conference Center, Bldg. 402, Lobby)
8:30 am to 8:45 am	Welcome (APS Auditorium) Robert Sullivan, Argonne National Laboratory
8:45 am to 9:45 am	Keynote Address: *On Values, Metaphors, and Realities: How Do You Take in the Glory of a Dandelion?* (Auditorium) Dr. David Maddox, The Nature of Cities
9:45 am to 10:00 am	Break (Auditorium)
10:00 am to 11:00 am	Plenary Session: *New Directions and Challenges in Federal Stewardship of Visual Resources* (Auditorium) Moderated by Brad Cownover, U. S. Forest Service
11:00 am to 11:45 am	Plenary Session: *Scenic America - Taking the Long View* (Auditorium) Mark Falzone, Scenic America
11:45 am to 1:15 pm	Lunch (Argonne Guest House Restaurant, Bldg. 460)
1:15 pm to 2:45 pm	Guided Discussion: *Scenic Value Assessment & Quantification* (Auditorium) Richard Smardon, State University of New York, and Robert Ribe, University of Oregon
2:45 pm to 3:00 pm	Break (Auditorium)
3:00 pm to 4:30 pm	Technical Breakout Sessions 1a (Rm. A1100) and 1b (Rm. E1100/1200) (See page 10)
4:30 pm to 5:15 pm	Plenary Session: *Protecting Night Skies and Naturally Dark Conditions in National Parks* (Auditorium) Frank Turina, National Park Service
5:30 pm-7:30 pm	Evening Reception (Freund Lodge, Bldg. 600– shuttle bus from APS Conference Center will be provided)

CONFERENCE PROGRAM

Wednesday, November 08, 2017

8:00 am to 9:30 am	Technical Breakout Sessions 2a (Rm. A1100) and 2b (Rm. E1100/1200) (See page 11)
9:30 am to 10:15 am	Break (Auditorium)
10:15 am to 11:45 am	Technical Breakout Sessions 3a (Rm. E1100/1200) and 3b (Auditorium) (See page 12)
11:45 am to 1:15 pm	Lunch (Argonne Guest House Restaurant, Bldg. 460)
1:15 pm to 2:45 pm	Guided Discussion: *Building Visual Resource Professional Capacity and Community* (Auditorium) Robert Sullivan, Argonne National Laboratory, and James Palmer, Scenic Resource Consultants
2:45 pm to 3:00 pm	Break (Auditorium)
3:00 pm to 4:30 pm	Technical Breakout Sessions 4a (Rm. E1100/1200) and 4b (Rm. A1100) (See page 13)
4:30 pm to 5:15 pm	Plenary Session: *The Role of the Public in Visual Impact Assessment* (Auditorium) James Palmer, Scenic Resource Consultants, and Robert Sullivan, Argonne National Laboratory

Thursday, November 09, 2017

8:00 am to 9:30 am	Technical Breakout Sessions 5a (Rm. A1100) and 5b (Rm. E1100/1200) (See page 14)
9:30 am to 9:45 am	Break (Auditorium)
9:45 am to 11:30 am	Technical Breakout Sessions 6a (Auditorium) and 6b (Rm. E1100/1200) (See page 15)
11:30 am to 12:00 pm	Closing Remarks (Auditorium) Conference Steering Committee

KEYNOTE SPEAKER

David Maddox, Executive Director, *The Nature of Cities*

David Maddox is committed to the health of the natural environment and its importance for the creation of sustainable, resilient, livable, and just cities. After a PhD in ecology and statistics at Cornell he spent 10 years at the Nature Conservancy working on climate change and stewardship. In 2012, David founded and is Executive Director of The Nature of Cities, a transdisciplinary essay and discussion site—with 600+ writers from around the world, from scientists to civil society, designers to artists—on cities as ecosystems of people, nature, and infrastructure. He is also a composer, playwright, and theatre artist. He lives in New York City.

TECHNICAL BREAKOUT SESSIONS 1A AND 1B

Session 1a (Tuesday 3:00-4:30 PM, Rm. A1100)
Establishing and Protecting Visual Resource Values

- **Cultural Ecosystem Services as Part of Scenic Resource Management?**
  Richard Smardon, State University of New York

- **Evidentiary Challenges in Bringing Cultural Ecosystem Services into Visual Resource Stewardship: A Model of Landscape Evaluation for Planning**
  Robert Ribe, University of Oregon

- **Legal Powers to Protect Scenery**
  John Nagle, University of Notre Dame

Session 1b (Tuesday 3:00-4:30 PM, Rm. E1100-1200)
Identifying Visual Resource Values I

- **Community Forestry Practice and Visible Stewardship: A Case Study Evaluation in British Columbia**
  Ashley Smith, Indigenous and Northern Affairs Canada; and *Stephen Sheppard, University of British Columbi*a

- **Long Distance Landscapes: Conducting a Baseline Visual Assessment for the Pacific Northwest National Scenic Trail**
  Brad Cownover and Matthew Ramich, United States Forest Service

- **Getting in the Game: A National Park Service Approach to Visual Resource Inventory**
  Melanie Peters, Ksienya Taylor, Mark Meyer, National Park Service; and *Robert Sullivan, Argonne National Laboratory*

TECHNICAL BREAKOUT SESSIONS 2A AND 2B

Session 2a (Wednesday 8:00-9:30 AM. Rm. A1100)
Identifying Visual Resource Values II

- **Giving Landscapes a Voice: Using Social Media and Web-based Technologies in BLM's Visual Resource Inventory Process**
  Allysia Angus, Bureau of Land Management; *Chris Bockey* and *Whitney May*, *Logan Simpson Design*

- **The Use of Crowdsourced and Georeferenced Photography to Aid in Visual Resource Planning and Conservation**
  Lacey Goldberg, The Pennsylvania State University; Timothy Murtha, University of Florida; and Brian Orland, University of Georgia

- **Identifying the Valued Ordinary, as a Step toward Scenic Landscape Conservation**
  Brian Orland and J. Calabria, University of Georgia; Lacey Goldberg, and Tara Mazurczyk, The Pennsylvania State University; Timothy Murtha, University of Florida; M. Thomas, M. Welch-Devine, and A. Wolfe, University of Georgia

Session2b (Wednesday 8:00-9:30 AM, Rm. E1100/1200)
Visual Resources in Urban Environments

- **Visual Resource Stewardship at the Neighborhood Scale: Measuring Small-Scale Landscape Change in Response to a Vacant Land Reuse Program**
  Paul Gobster, United States Forest Service; William Stewart, Douglas Williams, and Carena van Riper, University of Illinois; and Allison Grenen, Northwestern University

- **Documenting and Modeling Care as a Visual Resource of Disinvested Urban Neighborhoods**
  Joan Iverson Nassauer, Noah Webster, and Lanfei Liu, University of Michigan

- **A Visual Analysis Methodology Applied in Urban Environments: Public Participation and Alternatives Analysis**
  Darrin Gilbert and Jason Pfaff, Power Engineers, Inc.

TECHNICAL BREAKOUT SESSIONS 3A AND 3B

Session 3a (Wednesday 10:15-11:45 AM, Rm. E1100/1200)
Cultural Resources in Scenic Landscapes

- **Viewing the Landscape of the George Washington Memorial Parkway**
  Paul Kelsch, Virginia Tech

- **Preserving the Cultural and Visual Character of the Blue Ridge Parkway's Historic Designed Motor Road Landscape**
  Gary Johnson, National Park Service (Retired)

- **Clearing Trails: Proven Methods for Organizing the Complexities of National Historic Trail Impact Analysis**
  Craig Johnson, Environmental Planning Group, LLC

Session 3b (Wednesday 10:15-11:45 AM, Auditorium)
Visual Resource Programs and Planning

- **Protecting Scenery at Multiple Scales**
  John McCarty, Bureau of Land Management, and Carol McCoy, National Park Service

- **Protecting America's Treasured Landscapes: The National Park Service Visual Resources Program** *Mark Meyer, National Park Service and Robert Sullivan, Argonne National Laboratory*

- **Scenic Resource Management and US Forest Service Forest Planning**
  Nancy Brunswick, United States Forest Service

TECHNICAL BREAKOUT SESSIONS 4A AND 4B

Session 4a (Wednesday 3:00-4:30 PM, Rm. E1100/1200)
Visual Resource Management Approaches and Applications

- **Integrating Visual and Cultural Resource Evaluation and Impact Assessment for Landscape Conservation Design and Planning**
  Tara Mazurczyk, The Pennsylvania State University; Timothy Murtha, University of Florida; Lacey Goldberg, The Pennsylvania State University; and Brian Orland, University of Georgia

- **Cascade Head Scenic Research Area: Protecting Place along the Oregon Coast; Managing for a Law that Gives Practical Consideration to Our Ties to a Landscape**
  Jessica Dole, United States Forest Service

- **Visual Resources, an Integral Part of Park Resource and Visitor Use Management Planning**
  Gary Johnson, National Park Service (Retired)

Session 4b (Wednesday 3:00-4:30 PM, Rm. A1100)
Visual Resource Research and Methodology Issues

- **Ecology of Scale in Visual Landscape Assessments**
  Richard Sutton, University of Nebraska

- **Collaborative Research to Determine Visual Impact Assessment Best Practices**
  James Palmer, Scenic Resource Consultants

- **Comparing Visual Impact Analysis under the National Environmental Policy Act and Section 106 of the National Historic Preservation Act**
  Robert Sullivan, Argonne National Laboratory; Mark Meyer, National Park Service; and Daniel O'Rourke, Argonne National Laboratory

TECHNICAL BREAKOUT SESSIONS 5A AND 5B

Session 5a (Thursday 8:00-9:30 AM, Rm. A1100)
Renewable Energy Impact Assessment and Mitigation

- **An Overview of Visual Impact Analysis for Offshore Wind Energy**
  Richard Warner, Bureau of Ocean Energy Management

- **The Maine Wind Energy Act in a Time of Change**
  Terrence DeWan, Terrence J. DeWan and Associates

- **Land Art Generator Initiative**
  Elizabeth Monoian and Robert Ferry, Land Art Generator Initiative

Session5b (Thursday 8:00-9:30 AM, Rm. E1100/1200)
Visualization/Simulation 1

- **Real-time Landscape Assessment—The Claytor Lake Visual Management Study**
  Patrick Miller and Peter Sforza, Virginia Tech

- **Expanding the Use of Visualization Technology—3D Modeling**
  Tracy Perfors, Bureau of Land Management

- **Exploring Visualization Tools for Communicating Natural Resource Management Information**
  Kevin Colby and Kelly Ortiz, United States Forest Service

TECHNICAL BREAKOUT SESSIONS 6A AND 6B

Session 6a (Thursday 9:45-11:30 AM, Auditorium)
Visualization/Simulation 2

- **Visualizing Landscape Impacts: The Development and Application of a New Spatial Analysis Tool**
  Brent Chamberlain, Kansas State University

- **Modeling Coastal Sedimentation and Erosion for Design Applications within the Field of Landscape Architecture and Architecture**
  Aidan Ackerman and Jonathan Cave, Boston Architectural College

- **U3D-DSS: A Novel Decision Support System for Community Directed Green Infrastructure Design**
  Mark Lindquist, Victoria Campbell-Arvai, Alec Foster, Shannon Sylte, and Frank Deaton, University of Michigan

- **Emerging Technologies for Visual Resource Management**
  Jason Pfaff and Shawn Jackson, Power Engineers, Inc.

Session 6b (Thursday 9:45-11:30 AM, Rm. E1100/1200)
Visual Impact Mitigation

- **Effective Integration of Visual Analyses, Mitigation, and Reclamation for Linear Projects**
  Craig Johnson, Environmental Planning Group, LLC

- **Mitigating Visual Impacts of Utility-Scale Energy Projects**
  Joseph Donaldson, Ecology and Environment, Inc.

- **Reclaiming Visual Stewardship in Tucson, Arizona—Is It Possible?**
  Ellen Alster, Pima County Department of Transportation

- **Surface Color Treatment of Transmission Line Structures**
  Brandon Colvin, Bureau of Land Management

ABSTRACTS

PLENARY SESSIONS AND GUIDED DISCUSSIONS

All plenary sessions and guided discussions will take place in the APS Auditorium.

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Plenary Session (Tuesday 10:00 AM-11:00 AM)

New Directions and Challenges in Federal Stewardship of Visual Resources

Matthew Arnn, Chief Landscape Architect, United States Forest Service
John McCarty, Chief Landscape Architect, Bureau of Land Management
Mark Meyer, Visual Resource Specialist, National Park Service
Richard Warner, Cultural Resources Specialist, Bureau of Ocean Energy Management

Abstract

The need to protect and preserve natural, cultural, and scenic resources is an escalating imperative for those tasked with managing public lands and waters. The recent increase in onshore and offshore energy development activities compromises critical visitor experiences when it encroaches on landscapes and seascapes cherished for their naturalness, scenic beauty, and cultural significance. National priorities for energy development, which include conventional and renewable energy resources, have placed unusually high pressure on landscapes and offshore areas that are ideal for solar, wind, geothermal, oil and gas, and other energy-related development. The demand for new electric transmission and pipeline corridors to carry this energy to market may also potentially alter the landscape's visual character. The role of public land and offshore management agencies involves accommodating the demand for resource development while protecting the visual value and the integrity of its natural character.

The Bureau of Land Management, US Forest Service, National Park Service, and Bureau of Ocean Energy Management are tasked with managing public lands and seascapes, but the agencies also authorize onshore/offshore energy development. Representatives from the agencies will update the audience on current directions taken to meet the escalating challenges in visual resource stewardship. These agencies share many of the same challenges; however, their approaches to resolve these common issues may vary. For this presentation, each agency prepared a brief written synopsis on agency history with managing visual resources, new directions in visual resource stewardship policy, and the challenges they face.

Plenary Session (Tuesday 11:00 AM-11:45 AM)

Scenic America - Taking the Long View

Mark Falzone, President, Scenic America

Abstract

The modern movement to preserve and enhance the visual character of this country was set in motion in 1965 by President and Lady Bird Johnson, Laurance S. Rockefeller and other visionaries who saw and sought to remedy a number of serious and mounting threats to America the Beautiful. That year's White House Conference on Natural Beauty and signing of the Highway Beautification Act should have marked the beginning of a new era in scenic conservation.

But fifty years later the threats to America's visual environment have never been greater, and we as citizens stand at a critical juncture in determining how our country looks. Do we want America, fifty years from now, to be full of homogenized landscapes, tarnished roadsides and unattractive communities? Or do we want to live in a country that values and honors its natural and built environments?

Scenic America believes that all Americans deserve to live, travel through, and visit places that are beautiful and unique. To that end we have assembled *Scenic America - Taking the Long View,* a guide to realizing the goals of our visionary predecessors like the Johnsons and Rockefellers. The paper is divided into five topics with overarching challenges to scenic beauty in America, accompanied by bold but achievable solutions to those problems. The topics include:

- Placemaking: Preserving and Enhancing Community Character
- Honoring Parks and Open Spaces
- Celebrating Byways and Gateways
- Mitigating Visual Impacts of Overhead Wires
- Promoting Beautiful Highways

Guided Discussion (Tuesday 1:15 PM-2:45 PM)

Scenic Value Assessment and Quantification

Discussion to be led by:

Richard Smardon PhD SUNY Distinguished Service Professor Emeritus,
Dept. of Environmental Studies SUNY college of Environmental Science and Forestry
and
Robert G. Ribe, Institute for a Sustainable Environment & Department of Landscape Architecture, University of Oregon

This guided discussion will examine the following questions:

1. *Should we move toward assessment quantification of "scenic quality" as an ecosystem service?*
2. *How should we assess or disaggregate "scenic quality" in order to more accurately and completely value it?*

Key References

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Plenary Session (Tuesday 4:30 PM-5:15 PM)

Protecting Night Skies and Naturally Dark Conditions in National Parks

Frank Turina, PhD, Program Manager for Policy Planning and Compliance, National Park Service Natural Sounds and Night Skies Division

Abstract

Nighttime views and environments are among the critical park features the National Park Service protects. Protecting views of naturally dark skies enhances the qualities of solitude and undeveloped wilderness character and provides conditions that animals depend on for survival and park visitors cherish. The scenic quality of night skies and naturally dark environments also help visitors connect to the cultural resources and historic settings that parks seek to preserve.

However, preserving the scenic quality of night skies is one component of protecting naturally dark conditions and natural cycles of light and dark in parks. The NPS recognizes a naturally dark night sky as more than a scenic canvas; it is part of a complex nocturnal ecosystem that supports both natural and cultural resources. NPS policy states that the Service will preserve, to the greatest extent possible, the natural lightscapes of parks, protect natural darkness and other components of the natural lightscape, minimize light that emanates from park facilities, and seek the cooperation of park visitors, neighbors, and local government agencies to prevent or minimize the intrusion of artificial light into parks. Recent and rapid changes in lighting technologies and applications have produced challenges and opportunities for meeting this policy objective.

This presentation will address NPS policy for protecting park resources and values from the effects of stray light, and discuss the importance of night skies and natural cycles of light and dark on park visitors and wildlife. The effects of stray light on park resources will be covered and the six principles of sustainable outdoor lighting will be presented. This presentation will also focus on recent technological advances such as lighting networks, smart controls, and enhanced spectral characteristics that can help parks and communities minimize the effects of stray light on natural and cultural resources and protect naturally dark condition for future generations of park visitors.

Guided Discussion (Wednesday 1:15 PM-2:45 PM)

Building Visual Resource Professional Capacity and Community

Discussion to be led by Robert Sullivan, Visual Resource Scientist, Argonne National Laboratory, and James Palmer, Scenic Resource Consultants

Abstract

Like any profession, visual resource management and planning relies in part on a foundation of professional principles and standards, accepted practices and methods, and research and development activities. Fundamental to the healthy development of all of these is a community of practitioners that share ideas and opinions, review and critique each other's work, collaborate to obtain funding and conduct projects, share research and project information, identify principles and set standards where appropriate, and importantly, advise and learn from each other. Critical to the health of the community of practitioners is education at the university level, which leads to a common understanding of the scientific and professional knowledge required for competent practice. And finally, critical to the profession and our shared goal of informed and effective visual resource management is support from outside the profession, including support from the public, support from advocacy groups, and from government agencies and leaders to ensure that visual resource concerns are adequately considered in land and water resource planning and decision making.

In the U.S., visual resource professionals are few in number, and widely scattered. The discipline covers many topic areas. Some of us work in relative isolation. Most of us either work for federal and state agencies, in private practice, or at universities, but there is not always good information exchange between these groups. These circumstances make effective communication and collaboration difficult, but it is important to achieve the best quality in our work, and to our success as individuals and as a profession. There is a cost associated with the lack of cohesion in our community. Too many of us are working on the same problems without knowledge of each other's work. In an era of tightening budgets, we may be missing opportunities for cost-effective collaboration. Important research needs are unmet. We lack standards and accepted practices and methods in a critical time for our profession, as our national landscapes and seascapes are being transformed by energy development, climate change and other forces. While there is public support for visual resources, there are few advocates for our profession and its goals. We have no dedicated professional society, and the principles and methods we use are taught in relatively few educational institutions.

This guided discussion session will be devoted to discussing how we can build a stronger and more effective community of practice that fosters the sound development and functioning of the key elements of the foundation described above. We will present the results of an online survey of conference attendees that asks questions about their perceived needs for better information dissemination regarding visual resource issues and better communication with peers. The survey also asks about preferences for various approaches and communication tools that could be used to foster the sharing of ideas, research results, opportunities, advice, and knowledge. Lastly, the survey asks about the perceived need for an organization for visual resource professionals.
After presenting the survey results, we will discuss possible paths forward to take action (if it is desirable) to employ one or more of the approaches or tools discussed in the survey, or others we identify. We will address the key challenges that have thwarted similar efforts in the past. Desired outcomes of this preliminary discussion are a short list of candidate approaches/tools, and a list of people willing to participate in developing a plan to implement at least one of them.

Plenary Session (Wednesday 4:30 PM-5:15 PM)

The Role of the Public in Visual Impact Assessment

Discussion to be led by James Palmer, Scenic Resource Consultants, and Robert Sullivan, Visual Resource Scientist, Argonne National Laboratory

Abstract

It is appropriate that people participate in decision making that may seriously affect their wellbeing. The unmistakable trend is toward greater public participation in environmental decision making, beyond simply identifying issues in the EIS scoping process and commenting on draft EISs. Increasingly, the public is involved throughout the visual impact assessment (VIA) process, identifying valued places and views, and providing project-specific feedback about potential visual impacts. Through the use of visual simulations and user intercept surveys, viewers are indicating—in the field—the acceptability of particular proposed projects that may affect the places they value, whether it is their community or their favorite recreation spot.

The use of user intercept surveys and simulations offers several benefits for VIA. Viewers are sampled in the potentially affected area, while engaged in location-appropriate activities that influence their level of engagement with the surrounding scenery. The survey includes a realistic representation of the proposed project that is referenced as they make judgments about how the visual change would affect their enjoyment and future use of the setting. The user intercept survey with simulations offers a much more realistic setting for the public's judgement about visual effects, and more importantly, allows a sample of the potentially impacted users to directly communicate how they think the change will impact them. Instead of a VIA professional speaking on their behalf about the potential effect on the view, they speak for themselves.

Few would question the benefit of having people judge for themselves how they will be affected by a proposed visual change. The validity is increased by making these judgements while experiencing the setting where the change will be visible. However, photomontage simulations are only approximations of the potential visual change. In the best of situations, they are close approximations of the appearance of proposed facility at a given time of day in a given lighting situation. In the worst situations, they are serious misrepresentations. They are limited in their accuracy and realism, do not show motion, and lack the dynamic range and detail perceivable by the human eye. At best, simulations are snapshots of a possible reality. Problems with simulations can be very subtle, and it may take a trained professional to spot them. A knowledgeable VIA professional should be aware of the limitations of simulations, and should factor these limitations into their judgements about impacts. Is the public really seeing a complete and accurate representation of the future when they consider visual simulations? If they aren't, can we really trust their judgements about project impacts?

In this discussion, Jim Palmer and Bob Sullivan will start a group discussion by briefly offering perspectives on the use of intercept surveys and simulations in VIA, and the larger issue of the roles of the public and the professional in the VIA process. The audience will be invited to participate.

TECHNICAL BREAKOUT SESSIONS 1A AND 1B

Session 1a (Tuesday 3:00-4:30 PM, Rm. A1100)

Establishing and Protecting Visual Resource Values

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Cultural Ecosystem Services as Part of Scenic Resource Management?

Richard Smardon PhD SUNY Distinguished Service Professor Emeritus,
Dept. of Environmental Studies SUNY college of Environmental Science and Forestry
http://www.esf.edu/faculty/smardon rsmardon@esf.edu

Abstract

Smardon and others (Gobster et al 2007) proposed development of a theory of ecological aesthetics whereby individuals could learn to value landscapes such as wooded wetlands for their intrinsic ecological value versus more surface artistic and culturally ingrained aesthetic value (Smardon 1983, p. 208). Then we had the Millennium Ecosystem Assessment Project (2005) that proposed the valuation of ecosystem services; regulatory, provisional, ecosystem support and cultural service provided by nature to us—free of charge. The challenge that I propose to address is can we utilize cultural ecosystem services (aesthetic, educational and recreational) derived from scenic landscapes and seascapes for scenic resource management and assessment? In this paper/presentation I propose to review the work done to date on assessing ecosystem cultural services related to water based scenic landscape resources and then apply this to an Upstate New York lake landscape.

Evidentiary Challenges in Bringing Cultural Ecosystem Services into Visual Resource Stewardship: A Model of Landscape Evaluation for Planning

Robert G. Ribe
Institute for a Sustainable Environment & Department of Landscape Architecture
University of Oregon

Abstract

Incorporating broad cultural values and ecosystem services into visual landscape stewardship will encounter major methodological challenges. To be sanctioned and effective environmental assessment methods need to fit into the institutional frameworks in which they operate. Scenery assessment methods, as opposed to the various theories and advocacy that support and contest them, are arguably already well boxed in by legal constraints. Integrating cultural resource and ecosystem service values may well violate these limits. Can these expansionary agendas be robustly satisfied within democratic due process, rules of evidence and separation of powers? A conceptual model is offered describing how acceptable landscape choices and appraisals are made by integrating and normatively compounding rational/objective analysis, cultural/normative narratives and sensible inputs. The theoretical and operational ways in which scenery assessments play in this model in relation to scientific, legal and planning processes are described. Some dysfunctional aspects are introduced, as well as how the ambitions of cultural ecosystem services valuation may violate its basic precepts and theory by usurping political authority. A few alternative theoretical solutions are explored in the directions of adding perceived cultural values to the scope of landscape aesthetics, or the parametric valuation of scenery or scenery plus cultural experiences as ecosystem services. These are founding wanting against basic democratic governance principles and rejected in favor of traditional planning and impact assessment methods and processes.

Legal Powers to Protect Scenery

John Copeland Nagle, John N. Matthews Professor, University of Notre Dame jnagle1@nd.edu

Abstract

There is a paradox at the heart of environmental law. The environmental quality that people value the most is the environmental quality that is least likely to be protected by the law.

Scenic values provided much of the original impetus for conserving the environment in the United States. One would never know that, though, from the ordinary records of environmental law. Environmental law's current focus emphasizes objective scientific values that are associated with particular landscapes. Scenic values receive much less attention.

But if you look hard enough, there are many ways in which the law empowers federal, state, and local governments to manage the surrounding landscape's appearance. The Organic Act lists scenic preservation and enjoyment as the first responsibility of the National Park Service. The statutes governing the Forest Service and the Bureau of Land Management direct those agencies to consider visual resources in their management of federal public lands. Special entities such as the Columbia River Gorge National Scenic Area and the Tahoe Regional Planning Agency must prioritize scenic values. Scenic beauty must be considered whenever a federal agency conducts an environmental impact statement.

Many state and local governments have their own laws designed to protect the appearance of their most beautiful landscapes. California, Maine, and Hawai'i are among the leaders that actively prohibit development that is inconsistent with scenic views. Teton County, Wyoming, is one of many counties that employs zoning law to protect scenic views. Many cities have designated special areas whose natural appearance they work to conserve.

Altogether, while the law is not nearly as protective of scenic beauty as one might expect, there are many tools available for interested governments to conserve their visual resources.

Session 1b (Tuesday 3:00-4:30 PM, Rm. E1100/1200)
Identifying Visual Resource Values I

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Community Forestry Practice and Visible Stewardship: A Case Study Evaluation in British Columbia

Ashley Smith MRM, Indigenous and Northern Affairs Canada ashleyvictoriasmith@gmail.com
Stephen Sheppard Professor, Director CALP, UBC stephen.sheppard@ubc.ca

Abstract
This study's findings suggest that biological, cultural and personal factors influence the development of aesthetic landscape values within the sample communities. Respondents expressed five categories of aesthetic landscape appreciation during the interview process: non-instrumental, ecological, recreational, visible stewardship and utilitarian. Despite variation in aesthetic valuation of local landscapes, a preferential trend exists towards landscapes that demonstrate visible stewardship, with higher levels of dispersed canopy retention. Interview results indicate an overall satisfaction with management of visual quality by community forests. Results of the Visual Quality Effectiveness Evaluation indicate the sample community forests in my study have met, and in some cases surpassed, provincial expectations for maintaining and enhancing visual quality on provincial Crown lands.

Long Distance Landscapes: Conducting a Baseline Visual Assessment for the Pacific Northwest National Scenic Trail

Brad Cownover, United States Forest Service
Matthew Ramich, United States Forest Service

Abstract

This presentation includes technical information and discussion on the goals, methods, results unique challenges, opportunities and lessons learned in the inventory of long distance landscapes. Congress designated the Pacific Northwest National Scenic Trail (PNNST), or Pacific Northwest Trail (PNT), in 2009. This long distance non-motorized trail stretches from the Continental Divide to the Pacific Ocean, traversing over 1,200 miles near the Canadian border across northern Montana, Idaho, and Washington. The United States Forest Service is responsible for the administration of the PNT. The Forest Service funded and carried out a baseline visual assessment of the entire trail during Summer 2015, aiding development of the comprehensive management plan; required for long term management of these trails crossing federal and non-federal lands.

The baseline assessment documented the Trail's existing conditions and unique landscape characteristics, identifying potential risks to scenic resources' protection; a primary purpose of nationally designated scenic trails. Understanding these elements defines related areas of the comprehensive management plan, including recreation settings, opportunities, and access. Utilizing the concept of ecoregions delineated units ('landscape rooms') along the trail, providing a framework for landscape units and associated character descriptions. Rooms were categorized by physical appearance, viewing distance, natural integrity, visual quality/scenic attractiveness, etc. Forest Service and Bureau of Land Management systems for assessing visual (scenic) resources were utilized. Photographic and Google Earth imagery geo—referenced key trail observation points. An InDesign document of field data effectively illustrates landscape character across resource disciplines in the comprehensive management planning process, aiding in long term monitoring.

Getting in the Game: A National Park Service Approach to Visual Resource Inventory

Melanie Peters, Natural Resource Specialist, Air Resources Division, National Park Service, melanie_peters@nps.gov
Ksienya Taylor, Natural Resource Specialist, Air Resources Division, National Park Service, ksienya_taylor@nps.gov
Mark Meyer, Visual Resource Specialist, Air Resources Division, National Park Service mark_e_meyer@nps.gov
Robert Sullivan, Visual Resource Scientist, Environmental Science Division, Argonne National Laboratory sullivan@anl.gov

Abstract

In 2013 the National Park Service launched a visual resource inventory method designed specifically to meet NPS needs. Capturing visual experiences accurately and consistently across diverse landscapes is a key goal. Because most visitors experience parks, first, through their eyes, their visual experience of the park is important for their enjoyment and appreciation of park resources.

In the inventory process, each view is mapped and described from the viewers' perspective. Views are also evaluated to capture both scenic quality and importance to the visitor experience. This approach allows the NPS to assess and value visual resources in a holistic way.
Park staff from any background can gain the necessary skills with relatively brief training and field practice. Because of the vast scale of many park landscapes and the dynamic nature of visual resource pressures, the capacity of park staff to conduct inventory in a modular way is necessary for making the inventory sustainable.

Inventory data can be used in spatial analysis to quickly show where views overlap, which portions of the landscape are truly visible from a given view point, and what the composite value of all intersecting views is. Robust inventory information allows managers to integrate visual resource considerations into park planning and management. This is especially important when working with partners beyond our boundaries to affect project proposals and target critical areas for visual resource protection.

The NPS visual resource inventory method has already proven effective in diverse park landscapes and is gaining more traction. Embracing our role in preserving and protecting visual resources is critical to the continued viability of NPS areas as places of national significance into the future.

TECHNICAL BREAKOUT SESSIONS 2A AND 2B

Session 2a (Wednesday 8:00-9:30 AM, Rm. A1100)
Identifying Visual Resource Values II

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Giving Landscapes a Voice: Using Social Media and Web-based Technologies in BLM's Visual Resource Inventory Process

Allysia Angus, Landscape Architect / Land Use Planner
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Chris Bockey, Environmental Planner/Visual Resource Specialist
Logan Simpson, cbockey@logansimpson.com
Whitney May, Environmental Planner/Visual Resource Specialist, Logan Simpson

Abstract
The Federal Land Policy and Management Act in 1976 mandated that the Bureau of Land Management (BLM) manage public lands under the concept of multiple-use while protecting natural, historical, and cultural resources—including the protection of the quality of the scenic values. Section 201 (a) states that an inventory of all public lands and their resources (including scenic values) is to be prepared and maintained on a continuing basis. BLM administers over 300 million acres of the land in the United States.

In the early 1980s, BLM developed a Visual Resource Management Program to inventory and set management objectives for the inherent scenic value of the lands they manage. The Visual Resource Inventory (VRI) provides the foundation for management of the visual landscape setting at a regional scale as well as the basis for analysis as projects and activities are planned. It also provides the data to determine scarcity levels of a particular visual value.

One of the three components to conducting a VRI is gathering information to measure or evaluate concern for scenic quality or sensitivity to change within the visual environment. The BLM system quantifies sensitivity levels as high, medium or low by analyzing six indicators of public concern which include Type of Users, Amount of Use, Public Interest, Adjacent Land Uses, Special Areas and Other Factors that may provide indicators of visual sensitivity.

Historically, capturing the indicators identified above have been paper exercises relegated to BLM staff and their knowledge of the area and the public they interact with. As VRIs have evolved, discussions have led to different methods and approaches in having a more comprehensive and inclusive process for obtaining sensitivity information so that it can be a useful tool in land management decisions.

As part of the Grand Staircase-Escalante National Monument (GSENM) VRI, GSENM staff is currently working with Logan Simpson staff on the development of using web-based interactive survey platforms as the next generation of media for capturing and synthesizing data and information related to visual sensitivity.

This panel-based discussion will walk through previous iterations of sensitivity data gathering as well as provide lessons learned during testing and implementation of current online data gathering methodologies and processes.

The Use of Crowdsourced and Georeferenced Photography to Aid in Visual Resource Planning and Conservation

Lacey Goldberg, Hamer Center for Community Design, The Pennsylvania State University
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Timothy Murtha, College of Design, Construction & Planning, University of Florida
Brian Orland, College of Environment+Design, University of Georgia

Abstract

The advent of Web 2.0 and the growth of social media platforms have fostered an environment for the documentation and sharing of landscape imagery. In addition to looking at the site scale, using these big data allows for visual landscape assessment at the regional scale. At larger scales, photographs may reveal broad patterns in the landscape including preference for certain land cover types and ease (or lack of) access to visual and cultural resources. Studies have shown that clustering of georeferenced photos indicates interest in a point of view within the landscape or a particular visual or cultural resource. This clustering can also aid in prioritizing visual resource conservation efforts by indicating preference for certain locations over others. Frequency of use, "liking", of photos recorded as metadata provides a metric of citizen evaluation, both local and visitor, to the greater process of visual resource planning and conservation. Alternatively, crowdsourced photography can document visual impacts of landscape change as experienced by the people of the place. Sites like Google Earth, Panoramio and Flickr permit users worldwide to upload and share georeferenced photographs, while others like FrackTracker.org archive landscape impacts, in this case, those associated with development from the natural gas industry all over the U.S. This paper uses the state of Pennsylvania as a case study example to discuss the opportunities for crowdsourced and georeferenced photography to aid in visual resource conservation and planning.

Identifying the Valued Ordinary, as a Step toward Scenic Landscape Conservation

Brian Orland, College of Environment+Design, University of Georgia
J. Calabria, College of Environment+Design, University of Georgia
Lacey Goldberg, Hamer Center for Community Design, The Pennsylvania State University
Tara Mazurczyk, Hamer Center for Community Design, The Pennsylvania State University
Timothy Murtha, University of Florida, College of Design, Construction & Planning, University of Florida
M. Thomas, M. Welch-Devine, and A. Wolfe, College of Environment+Design, University of Georgia

Abstract

The Georgia Scenic Byways program (GDOT, 2017) is a "grassroots effort … to identify, preserve, promote and protect treasured corridors throughout the state." There are fifteen such corridors designated by Georgia DOT, their only protection is a restriction on roadside billboards. Despite frequent avocation of the beauties of Georgia highways, there is no systematic articulation of the physical attributes of a scenic landscape, how such attributes would be identified and thus protected, nor the expertise or resources to devote to new discoveries. Furthermore, any state-wide initiative would likely miss features of local significance such as abandoned farms and homesites, historic burial grounds or valued historic vistas—the landscape features to which people are attached and that they might deem worthy of protection. This paper presents a model "scenic beauty detector" using social media and augmented reality mechanisms to direct interested citizens to examine road stretches with potential for identification as scenic highways and to record their support and criteria for such designation. We argue that the characteristics of valued scenic highways reside in the photographic records that people make with their geolocation-enabled cell phones that are then retrievable via tools such as Google Earth. We further argue that other, undesignated stretches bearing the same "affordances" (Gibson, 1977) would also be candidates for state designation. Citizen data collectors guided by GIS analyses that locate these affordances via their smartphones augment existing records of known visual resources with in situ evaluations, capturing photos and geolocation evidence for use in the Georgia Scenic Byway designation process.

Session2b (Wednesday 8:00-9:30 AM, Rm. E1100/1200)
Visual Resources in Urban Environments

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Visual Resource Stewardship at the Neighborhood Scale: Measuring Small-Scale Landscape Change in Response to a Vacant Land Reuse Program

Paul Gobster, United States Forest Service Northern Research Station-Chicago pgobster@fs.fed.us
William Stewart, Douglas Williams, and Carena van Riper, University of Illinois
Allison Grenen, Northwestern University

Abstract

Visual assessments are usually conceived of and applied to large-area landscapes such as national forests. Yet the visual resource is an important cultural ecosystem service at all scales of landscape, from small sites to regional and national scales. In urban landscapes, the neighborhood scale is particularly relevant to people's everyday perception and experience of cities, and the recent availability of high resolution aerial and street-level imagery through sources such as Google has opened up new opportunities to incorporate neighborhood scale visual assessments into urban research and planning activities. In this study we adapted systematic social observation and urban ecology vegetation assessment methods to identify visual signs of stewardship made by local residents to vacant lots purchased through the Chicago Large Lot Program. Mowing and weed removal and improvements such as gardens and fences express an aesthetic of care that can communicate personal and community values. We were particularly interested in assessing how these and other visual signs of condition and care changed as a function of residents' participation in the program, and in coding images of lots before and after the time of purchase we were able to document important aspects of landscape change at the lot level. Large lot condition and care were also positively related to the proximity and care of the purchaser's previously owned property on the block. And while block level changes were less apparent over the short time frame of the study so far, we did find significant relationships between block level elements of care and the percent of available large lots purchased on a block. We discuss these and other key findings and the utility of the approach in advancing visual resource stewardship goals in the urban landscape.

Documenting and Modeling Care as a Visual Resource of Disinvested Urban Neighborhoods

Joan Iverson Nassauer, School for Environment and Sustainability, University of Michigan
Noah Webster, and Lanfei Liu, Institute for Social Research, University of Michigan

Abstract

In two neighborhoods of Detroit, MI, USA, that were characterized by high residential vacancy rates, we conducted a census of cues to care, vacant parcels, and abandoned houses on 8967 residential properties, including 3650 occupied properties. To measure these dimensions of care, we developed an instrument and employed it to gather data from 2009 Google Street images, which we subsequently field checked for changes in 2011. We extracted four binomial independent variables from these data to describe all residential properties as having: good landscape care, poor landscape care, property vacancy, house abandonment. We extracted two dependent variables to describe occupied properties as cases in our analytic models: 1) the presence of apparent mowing (no/yes) and; 2) other cues to landscape care measured on a four-point scale (1=no cues; 4=presence of flowers, hedges, lights, and/or ornaments). We used three different distance metrics (Euclidean distance, Euclidean area, and Cadastral adjacency) to analyze the effects of nearby parcel care on the care of occupied residential parcels. We found that care of occupied parcels was related to: greater distance from the nearest abandoned house, fewer abandoned homes located within 50 meters of the occupied parcel, and a greater number of more well-cared-for parcels located within 100, 150, and 200 meters. Cadastral adjacency of well-cared for and vacant parcels also powerfully related to occupied parcel care. This paper describes our census instrument and details the results of our analytical models across the three types of distance metrics.

A Visual Analysis Methodology Applied in Urban Environments: Public Participation and Alternatives Analysis

Darrin Gilbert and Jason Pfaff, Power Engineers, Inc.

Abstract

Darrin Gilbert and Jason Pfaff will present a process for evaluating visual impacts and engaging the public for projects in urban areas. Much of the focus on visual resource analysis is on natural or pristine landscapes. However, the greatest need and some of the most intense opposition comes from projects located in urban environments where over 80% of the population lives, works and plays. Having a defensible methodology and engaging the public in the evaluating visual resources helps to inform project design and is critical, not only to obtaining state and local permits, but in helping to protect our sensitive developed landscapes. This presentation includes a case study review involving the development of a 230 kV transmission line.

TECHNICAL BREAKOUT SESSIONS 3A AND 3B

Session 3a (Wednesday 10:15-11:45 AM, Rm. E1100/1200)
Cultural Resources in Scenic Landscapes

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Viewing the Landscape of the George Washington Memorial Parkway

Paul Kelsch, Ph.D., Associate Professor, Landscape Architecture, Virginia Tech pkelsch@vt.edu

Abstract

This paper investigates the importance of views along the George Washington Memorial Parkway, especially their role in transforming the Potomac River waterfront from Washington DC to Mount Vernon VA from land into landscape. It discusses the original design of a narrative sequence of views by landscape architect Wilbur Simonson, and its importance in the ideological purpose of the parkway, the commemoration of George Washington. It places this emphasis on views within the discourse of landscape painting and cultural geographic interpretation of landscape ideology, showing the complexities of landscape values embedded in landscape paintings and revealing a similar complexity in the design of the original segment of the parkway. It concludes with a discussion of the values of a cultural geographic approach for landscape management.

Preserving the Cultural and Visual Character of the Blue Ridge Parkway's Historic Designed Motor Road Landscape

Gary Johnson ASLA, National Park Service (Retired) garywjohnson660@gmail.com

Abstract

This paper presents a methodology that incorporates highway safety barrier warranting determination, historic integrity and effect evaluation and visual resource analysis for managing repair and safety undertakings proposed within the historic designed Blue Ridge Parkway motor road landscape. This methodology incorporates three aspects of affect determination that allow for:

- describing the visual and historic character of the Parkway's roadside landscape,
- assessing the ability of a particular roadside location to visually absorb the introduction of a new safety feature, and
- for applying the criteria of adverse effect to more precisely determine the degree to which a historic landscape would be affected.

A two-step assessment process includes first a safety screening to determine if placement of a safety feature is warranted. If so, then a second step evaluates the undertaking/action to determine the level of effect it would have on the Parkway's historic designed roadway landscape.

Clearing Trails: Proven Methods for Organizing the Complexities of National Historic Trail Impact Analysis

Craig Johnson, Environmental Planning Group, LLC cjohnson@epgllc.co

Abstract

National Historic Trail management and planning is nothing if not complex, and completing National Environmental Policy Act-related impact analyses for these trails is certainly no exception. With the involvement of multiple agencies and planning initiatives, developing an understanding of the regulatory and planning framework alone becomes a challenging task.

Further compounding this task is the fact that multiple resources are involved, and that a wide variety of data sources may or may not be available. However, by first organizing information into several key categories, and then establishing impact thresholds that directly relate to these categories, the challenge of National Historic Trail analysis can be successfully streamlined to focus on the key factors that potentially affect these trails. This paper introduces a proven approach to organizing and analyzing impacts to National Historic Trails—providing a concise and direct correlation between information and data, analysis, and determinations of consistency with planning documents.

Session 3b (Wednesday 10:15-11:45 AM, Auditorium)
Visual Resource Programs and Planning

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Protecting Scenery at Multiple Scales

John McCarty, Chief Landscape Architect, Bureau of Land Management *jhmccart@blm.gov*
Carol McCoy, Chief, Air Resources Division, National Park Service *carol_mccoy@nps.gov*

Abstract

Breathtaking and culturally significant views are important to our national heritage and the human spirit. The protection of scenery and historic properties is explicitly called out by several federal statutes. According to National Park Service visitor surveys, 90% of visitors to national parks consider scenic views an extremely or very important resource to protect and preserve. National, regional, and local economies benefit from this tourism. By adopting thoughtful and intentional management strategies, we can collectively ensure that important scenery endures for the benefit of future generations.

This paper presents ideas on how to cultivate thoughtful management of public scenic resources, which encompass both natural and cultural settings. It suggests ways to accomplish positive outcomes through alternative approaches to traditional regulatory instruments. It emphasizes promoting effective visual resource stewardship at the grass roots and local community level and encouraging cooperative stewardship among states, industry, private property owners and stakeholders to identify upfront important scenic views and visual resources to forge a collective management strategy for their stewardship into the future.

This session will first explore how scenery stewardship may be accomplished at multiple scales through a shared conservation commitment by public, private, and industry stakeholders at the local, state, and federal level. What steps to protect scenic resources can be drawn from existing methods (e.g., various separate agency approaches) and others being contemplated by federal agencies. The audience will be invited to share ideas on challenges that need considered for effective results and to offer suggestions for improving visual resource protection at multiple scales.

Protecting America's Treasured Landscapes: The National Park Service Visual Resources Program

Mark Meyer, Visual Resource Specialist, Air Resources Division, National Park Service
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Robert Sullivan, Visual Resource Scientist, Environmental Science Division, Argonne National Laboratory sullivan@anl.gov

Abstract

Through the National Park Service (NPS) Organic Act, Congress established NPS to manage park and monument areas to". . . conserve the scenery and the natural and historic objects and the wild life therein . . . by such means as will leave them unimpaired for the enjoyment of future generations." With this central mission, NPS has been entrusted with some of the most spectacular and historically significant landscapes throughout the country. The concept of planning and managing the visual landscape as a resource has been in place in the United States since the 1970's. The NPS has successfully addressed visual resource issues and management at multiple park units, but each one had to develop its own approach because until now, there has not been a service-wide program to support parks for visual resources. Over the last several years, NPS has developed a program that establishes service wide support to parks for managing visual resources within the context of the NPS mission. The program includes conducting inventory and evaluation of visual resources; providing guidance on assessing the visual impacts of projects; assisting parks in the inclusion of visual resources in park planning documents to assure long-term management along with other park resources; and developing policy and guidance documents to help assure consistency of visual resource management across the service. This session will provide an update of the program elements and activities to date that have supported the growth of the program.

Scenic Resource Management and US Forest Service Forest Planning

Nancy A. Brunswick, Regional Landscape Architect, USDA Forest Service, Intermountain Region
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Abstract

The US Forest Service released a new planning rule in 2012. This rule provides fundamental changes in how scenic resources are addressed compared to the original 1982 rule that defined the plans currently being revised in the Intermountain Region. Forest Plans guide the management direction for National Forests for a 15-year period. Management areas and focus are defined to provide for forest resource restoration and conservation while providing a sustainable flow of benefits, services, and uses.

The 1982 rule utilized the 1974 Visual Management System (VMS) for developing direction for scenic resources. A number of foundation premises and processes in the VMS have changed. VMS is based on an assessment that is conducted by experts (landscape architects) following a defined mapping and valuation process resulting in scenic classes. The expert translates biophysical features of the landscape into formal design parameters (Daniel, 2001). A basic premise in VMS is that human modifications in a natural landscape detracted from the scenic quality and that managing the degree of change due to management alterations was the primary guideline for the system (Visual Quality Objectives). The focus on degree of change did not adequately address the values that make individual landscapes special including cultural features.

The 2012 rule utilizes the principles in the 1995 Scenery Management System (SMS). The SMS builds on VMS principles, but includes fundamental changes. The 2012 rule mandates defining valued “scenic character” for areas, which contributes developing the desired condition, objectives, and guidelines for scenic resource management. This involves an advancement to include a human perception and aesthetic judgement by individuals who view and value the landscape (Daniel, 2001) and includes an understanding of special places (FSH 1909.12_20, 2015). Integrating special places adds a layer of complexity which includes social science concepts of memories, symbolic meanings, and spiritual values as they are applied to the landscape (Daniel, 2001). Scenic Integrity Objectives (SIOs) provide the direction for maintaining, restoring, or enhancing the landscape to move toward the desired scenic character. This paper explores the change between the two management systems, integrating the more familiar expert assessment with the inclusion of exploring human perception, and aesthetic judgement by the public.

TECHNICAL BREAKOUT SESSIONS 4A AND 4B

Session 4a (Wednesday 3:00-4:30 PM, Rm. E1100/1200)
Visual Resource Management Approaches and Applications

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Integrating Visual and Cultural Resource Evaluation and Impact Assessment for Landscape Conservation Design and Planning

Tara Mazurczyk, Hamer Center for Community Design, The Pennsylvania State University
Timothy Murtha, College of Design, Construction & Planning, University of Florida
Lacey Goldberg, Hamer Center for Community Design, The Pennsylvania State University
Brian Orland, College of Environment+Design, University of Georgia

Abstract

While there is an increased need for cultural resource conservation and management in North America, there are few approaches that provide robust integration and combined assessment of visual and cultural resources. Determining the scenic value of important views and identifying potential risk for loss of that view are core components needed to design protection preserving scenic quality and the cultural resources contributing to scenic value and overall sense of place. Our research, focused on the Appalachian Landscape Conservation Cooperative, uses a model to integrate cultural resources and visual resources for landscape scale conservation priorities. The goal of this paper was to describe our approach and compare how visual and cultural resources contribute to landscape scale conservation priorities in the Appalachian LCC. We investigated how 'place' can be studied from the perspective of visual resources, while compared to what we know from cultural resource databases, including the National Registry, agency-based, and state-wide datasets. In collaboration with Appalachian LLC, the study measures visual quality as compared to viewshed threats (e.g., energy and development expansion) to better inform cultural resource planning and management across the Pennsylvania landscape. Prominent ridgelines, knolls, and viewpoints, for example, are integral to the creation of rural and urban aesthetic character. By evaluating potential landscapes for conservation priority, we can begin to bring awareness to important resources for public investment and inform federal, private, public, and business sectors to engage in conservation of scenic and cultural heritage.

Cascade Head Scenic Research Area: Protecting Place along the Oregon Coast; Managing for a Law that Gives Practical Consideration to Our Tie to a Landscape

Jessica Dole, Forest Landscape Architect, Siuslaw National Forest

Abstract

The 9,670 acre Cascade Head Scenic Research Area (Cascade Head) was established by President Ford in 1974. Cascade Head is a picturesque place of serene estuary, dramatic headlands, changing atmosphere, and has had a strong appeal to people for centuries.

It was the first land in United States nationally designated primarily to ensure protection of its scenic values. It was established "to provide present and future generations with the use and enjoyment of certain ocean headlands, rivers, streams, estuaries, and forested areas, to insure the protection and encourage the study of significant areas for research and scientific purposes, and to promote a more sensitive relationship between man and his adjacent environment." The Area contains the whole headlands and estuary, an experimental forest, Nature Conservancy meadow land, and is recognized by the United Nations as a world Biosphere Reserve.

Dynamic forces of nature shape this scenic and cultural landscape of the Cascade Head Area. Existing character of the landscape with its rural houses and some farms, forest management, and associated research and low-key recreation use, and distinct natural areas of estuary, meadows, forest, headland, and coastline - is the basis of the effort to protect the character and restore the landscape of Cascade Head. This talk with address scenery management's role in protecting this dynamic coastal environment, Cascade Head.

Visual Resources, an Integral Part of Park Resource and Visitor Use Management Planning

Gary Johnson ASLA, National Park Service (Retired) garywjohnson660@gmail.com

Abstract

This paper presents a resource and visitor use planning approach where a landscape classification methodology and visual resource inventory were incorporated into a National Park Service (NPS) management planning project on the Blue Ridge Parkway. The approach incorporates a compilation of NPS and US Forest Service landscape classification, visitor use and resource management planning processes and the author's idea about how these can be integrated and applied on the ground.

An integral part of the management planning process was coming to an agreed upon understanding of what resources and visitor experiences are in the park/NHD and where they are located. That was a prerequisite to developing alternative management concepts and defining and applying management zone prescriptions in the alternatives. An inventory and classification of the park/NHD landscape into a range of distinct resource landscape units (RLUs) was the first step in understanding park resources and visitor experiences. Next the RLUs were analyzed to compare and contrast the spatial distribution of important natural, cultural and visual resources and contemporary infrastructure throughout the park/NHD. The landscape inventory, classification and additional analysis provided the basis for developing resource protection and visitor use alternatives and management prescriptions for each resource landscape unit of the park/NHD. Visual resources were addressed at the RLU scale as character defining features and more specifically in the proposed management concept, zones and prescriptions.

Session 4b (Wednesday 3:00-4:30 PM, Rm. A1100)
Visual Resource Research and Methodology Issues

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Ecology of Scale in Visual Landscape Assessments

Richard Sutton, The Program in Landscape Architecture, University of Nebraska

Abstract

Background readings on scale plus twenty-one visual landscape assessment studies from 1968 to 2006 were examined to understand the nature and use of scale and its relationship to the visual environment. The objectives of this study were to:

1) describe the concept of scale as applied to visual assessments,
2) review scale use in selected visual assessments, and
3) identify issues that need further research to better integrate scale into visual landscape assessments and theory.

Basic concepts and features relating observers with landscape and scale required defining scale, bounding visibility, perceiving scale, seeing hierarchically, and visualizing grain and extent.

Finally, it recommends further research for defining, recognizing, and incorporating scale into visual landscape studies should:

1) explicate use of absolute and relative scale,
2) compare traditional and multi-scalar, hierarchical approaches,
3) examine and revise the current reliance on substitution of distance for extent or scale,
4) compare space/mass interactions, not simply masses, to determine visual grain,
5) design research protocols in which psychophysical metrics correlate more logically with eco-physical metrics.

Collaborative Research to Determine Visual Impact Assessment Best Practices

James Palmer, Scenic Quality Consultants

Abstract

It has been generally accepted practice that photosimulations should be based on a single-frame photograph taken with a "normal" lens—a 55mm focal length on a 35mm format camera. This was the Scottish Natural Heritage's recommendation in its *Visual Representation of Windfarms: Good Practice Guidance* (Horner + Maclennan & Envision 2006). However, this recommendation was changed to the equivalent of a 75mm focal length lens in their most recent guidance (Scottish Natural Heritage 2014) based on a study by Hunter (2012).

It is proposed to investigate the "best" focal length to represent actual landscape views—which is the goal of photosimulations—through a low cost collaborative research project. A prototype validation study was conducted in Co. Wicklow, Ireland, where seven photographs were taken with FX-equivalent focal lengths between 30mm and 90mm at each of three viewpoints. Participants were asked to evaluate how well each photograph represents the visible landscape in terms of its context. The results indicate that a focal length slightly longer than 50mm is thought to best capture the scope of a landscape view. These results generally support the use of a "normal" focal length lens, and contradict Hunter's (2012) recommendations.

Conference attendees and others will be invited to replicate this protocol to help determine a standard focal length for single-frame photosimulations.

References

Horner + Maclennan & Envision (2006), Visual Representation of Windfarms: Good Practice Guidance. Inverness, Scotland: Scottish Natural Heritage.

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Comparing Visual Impact Analysis under the National Environmental Policy Act and Section 106 of the National Historic Preservation Act

Robert Sullivan, Visual Resource Scientist, Environmental Science Division, Argonne National Laboratory sullivan@anl.gov
Mark Meyer, Visual Resource Specialist, Air Resources Division, National Park Service mark_e_meyer@nps.gov
Daniel O'Rourke, Principal Cultural Resources Specialist, Environmental Science Division, Argonne National Laboratory danorourke@anl.gov

Abstract
In considering the effects of proposed projects or activities on society and the environment, assessment of visual impacts is important to several resources. Obviously, visual impacts affect purely scenic resources and people's scenic experiences of the visual landscape. However, other resources and experiences have an important visual component or aspect that may be affected by the visual impacts of projects or activities, including wild and scenic rivers, wilderness, historic sites and trails, and cultural landscapes.

The nature and process for considering a visual impact can also vary depending on the law being applied. Two laws, the National Historic Preservation Act and the National Environmental Policy Act, require the consideration of visual impacts; however, there are differences in the way that the laws define the resource, which influences how a visual effect is characterized.

Section 106 of the National Historic Preservation Act requires federal agencies to consider the impacts of their undertakings on the integrity of properties either listed or eligible for listing in the National Register of Historic Places. Under Section 106, the potential visual impacts from a proposed project or activity are considered with respect to their potential effects on the integrity of setting, feeling, and association of historic properties.

Visual impacts must also be considered under the National Environmental Policy Act (NEPA) not only for their potential to affect historic properties but also for their potential effects on scenic resources present in the landscape and the scenic experiences of people who view the landscape.

In essence, visual impact analysis (VIA) under Section 106 looks at impacts to places, while a NEPA visual impact analysis includes both impacts to the people at those places and to the larger landscape. While both analyses assess visual impacts, the analyses are fundamentally different in nature, and where there are potential impacts to historic properties, both analyses should be conducted to fully address the potential visual impacts from proposed projects or activities.

TECHNICAL BREAKOUT SESSIONS 5A AND 5B

Session 5a (Thursday 8:00-9:30 AM, Rm. A1100)
Renewable Energy Impact Assessment and Mitigation

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An Overview of Visual Impact Analysis for Offshore Wind Energy

Richard Warner, Bureau of Ocean Energy Management, richard.warner@boem.gov

Abstract

The Bureau of Ocean Energy Management (BOEM) is the bureau within the United States (U.S.) Department of the Interior responsible for managing offshore energy resources on the U.S. Outer Continental Shelf (OCS). The Bureau coordinates energy development, environmental protection, and economic development though the responsible management of offshore resources, based on the best available science. BOEM achieves these goals by balancing the needs of multiple interests for the OCS with the development of offshore wind energy facilities.

This paper will present a brief overview of BOEM’s regulatory framework for offshore renewable energy, along with an overview of the status of offshore wind energy projects in U.S. waters. Also discussed in this paper is how visual impact analysis (VIA) will be integrated into the environmental analysis of proposed wind energy projects, followed by a summary of unique characteristics of VIA for offshore wind, and the challenges encountered thus far. The conclusion presented an overview of lessons learned, and a summary of the future of VIA at BOEM.

The Maine Wind Energy Act in a Time of Change

Terrence DeWan, Terrence J. DeWan and Associates

Abstract

The 2008 Maine Wind Energy Act (WEA) established a protocol to assessing potential visual impacts of wind turbines on the Maine landscape. The WEA stipulates that wind project VIAs must consider several factors, including impacts on scenic resource of state or national significance (SRSNS); existing character of the surrounding area; viewer expectations; the extent, nature and duration of public uses of SRSNSs; and potential effect on continued use and enjoyment.

The WEA also defined SRSNSs; set a fixed 8-mile limit for viewshed evaluation; and allowed for expedited permitting within large portions of the state, excluding those areas with ecological, recreational, and scenic values.

This paper reviews several significant changes to the visual impact assessment protocols of the WEA that have been proposed and/or enacted as a result of public opposition to the law over the past decade. These include:

- A change in the law that allows communities to opt out of expedited permitting review, (39 have done so thus far).
- Amendments to the Site Location Application that address user surveys, public comments, photosimulations, cumulative visual impacts, significance ratings for SRSNS, and burden of proof.
- Limitations of the responsibilities of the State's peer reviewers who provide an objective evaluation of the VIA.
- Pending legislation to increase the area of potential visual effect to 15 miles for project located near designated scenic resources (e.g., Acadia NP).
- Proposed Maine DEP rules that address—among other things—determination of reasonableness of visual impacts.

Land Art Generator Initiative

Elizabeth Monoian and Robert Ferry, Founding Directors, Land Art Generator Initiative

Abstract

The great energy transition will have an impact on our built environment and our visual landscape like no other technical shift since the automobile. Our cities and countrysides will look different in 2040 than they do today as distributed renewable energy infrastructures expand at a rapid pace. The common perception of these systems is of standard flat blue solar panels and three-blade horizontal axis wind turbines, separated from the public by chain link fences. Many people do not see these as welcome additions to more cherished cityscapes and rural viewsheds. Rather than passively accepting these new energy systems as a necessary but aesthetically unfortunate addition to our cities, we can instead present examples of renewable energy infrastructures that are cultural icons. In doing so, we can excite and inspire people to want more renewable energy, not only because it is a required response to greenhouse gas emissions reduction mandates, but because it is sexy and culturally relevant.

The Land Art Generator Initiative (LAGI) is a part of a global conversation on the shifting aesthetics of sustainable infrastructure. By presenting examples of utility-scale renewable energy infrastructures as public art, LAGI is inspiring the general public about the beauty of our sustainable future, and showing policy makers and city planners that net-positive energy installations can be placemaking tools, economic development drivers, and educational venues while they help to power the grid.

The paper will demonstrate how LAGI is playing an important role in defining the design influence of renewable energy on our constructed environments.

Session5b (Thursday 8:00-9:30 AM, Rm. E1100/1200)
Visualization/Simulation 1

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Real-time Landscape Assessment—The Claytor Lake Visual Management Study

Patrick Miller, Patrick A. Miller, Ph.D., FASLA, FCELA, Professor of Landscape Architecture and Associate Dean for Graduate Studies and Outreach, Virginia Tech pmiller@vt.edu
Peter Sforza, Director and Research Scientist, Center for Geospatial Information Technology, Virginia Tech sforza@vt.edu

Abstract
How many of us have worked on visual assessment studies that sit on a shelf in a planner's office collecting dust? Or, how many of us have watched the eyes of an engineer or planner glaze over as you try to explain visual characteristics, such as visual complexity or sensitivity, of a landscape of concern to them. But the moment that you produce real images of the landscape they come to life. The Claytor Lake Visual Management Study was completed for American Electric Power Company (AEP), at the request of residents who live around the lake. It was seen as a dynamic tool that could be viewed in the 3rd-dimension in an office or the home of a resident, to see the landscape and to visualize how proposed landscape changes would affect this scenic landscape. In addition, the application or tool included panoramic photos and design guidelines for possible development that would take place in different locations around the lake. The platform for this dynamic tool was Google Earth, a free, available and easy to use software that could be used by citizens and public officials in making decisions about development around the lake.

Expanding the Use of Visualization Technology—3D Modeling

Tracy Perfors, Natural Resource Specialist, Bureau of Land Management

Abstract

The Bureau of Land Management (BLM) uses three-dimensional (3D) models viewable in Google Earth in addition to traditional visual resource analysis tools to plan, visualize, and mitigate new landscape-altering projects. A rough model can be made in minutes, allowing for quick and inexpensive pre-planning. Even when sites are inaccessible due to winter snow, timing, cost, or other access issues, modeling gives an approximation of the look of the final project and identifies scenery concerns. Alternatives can be worked through "on the fly" during meetings with stakeholders or in the field (with an internet connection), and mitigations can be made before major time or expense has been poured into an alternative.

When project proponents submit a final project design, sophisticated 3D models show the project more intuitively than any diagram or text could, since people naturally think and react to their world in 3D. As a Google Earth file, the model can be easily shared over email or website to any stakeholders or members of the public who have this free program on their computer. Viewers can investigate how the project looks from whatever viewpoints interest them, and not be limited to the handful of viewpoints chosen by the agency.

Finally, models help create photographic visual simulations when working with unusual facilities or dirt work which cannot be simply copied and “Photoshopped in” from other projects.

Exploring Visualization Tools for Communicating Natural Resource Management Information

Kevin Colby, Landscape Architect, Arapaho & Roosevelt National Forests & Pawnee National Grassland, United States Forest Service kcolby@fs.fed.us
Kelly Ortiz, Forest Landscape Architect, Rio Grande National Forest, United States Forest Service kortiz@fs.fed.us

Abstract

Planning is often in two dimensions, but we see the world in three dimensions. Google Earth is a useful tool for project design and visualization. Google Earth has several advantages:

- It's easy
- It's free and widely available
- It's portable (office and field)
- One can design in 3D
- One can export the file for layout notes

This presentation highlights our use of Google Earth for:

- Vegetation management
- Communication towers
- Development/Building envelope
- Building
- Oil and gas development

The presentation discusses six projects: A typical Forest Service vegetation management project with clearcutting, thinning and prescribed burning of vegetation; the “scalloping” of a clearing for a powerline near Rocky Mountain National Park; a communication tower facility on a prominent mountaintop; a building envelope study for the Chimney Rock National Monument, and two building development projects—one for a ski lodge next to Colorado’s premier mountain interstate highway and one on Hawaii.

The presentation consists of “stills” (pictures/graphics manipulated in PhotoShop and Corel) and movies from the Google Earth files on the projects (fly throughs).

TECHNICAL BREAKOUT SESSIONS 6A AND 6B

Session 6a (Thursday 9:45-11:30 AM, Auditorium)
Visualization/Simulation 2

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Visualizing Landscape Impacts: The Development and Application of a New Spatial Analysis Tool

Brent Chamberlain, Assistant Professor, Director for the Advanced Landscape and Immersive Visualization Environment (ALIVE!) Laboratory, Landscape Architecture and Regional & Community Planning, Kansas State University http://brentchamberlain.org

Abstract

Balancing cultural and ecological planning objectives can be rewarding and simultaneously, exceedingly challenging. This presentation will highlight a custom viewshed analysis tool that has been applied in conjunction with 1) an ecosystem service-oriented spatial analysis method to investigate the relationship between visual aesthetics, cultural significance and ecological value of the landscape; 2) operational forest planning over large landscapes; and 3) assessing differences between highway scenic routes within the US. The viewshed tool enables a nuanced representation of visual quality, providing a very different result than the standard (binary) representation. The tool combines concepts of visual magnitude, a computationally efficient algorithm, and a representation of the continuous experience, to help planners and scientists better evaluate potential visual impacts or opportunities stemming from planning projects. Visual magnitude creates a normalized value of potential impact, and when coupled with a route, offers a significant improvement over traditional viewshed methods for the evaluation of impact across large spaces. The tool that will be demonstrated also calculates perceived horizon and ridgelines (as opposed to geographic ridgelines). These analyses enable planners and scientists to identify possible visual obstructions or unsightly changes to these important physical features, offering an expedient way to estimate possible visual impact. Currently, these analyses are often done using 3D visual renderings, which can be cumbersome and expensive. Overall, this presentation will provide insights learned through practical application and vetted through scientific peer-review with the aim to provide new tools so support visual resource stewardship.

Modeling Coastal Sedimentation and Erosion for Design Applications within the Field of Landscape Architecture and Architecture

Aidan Ackerman, Boston Architectural College, Landscape Architecture Faculty
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Jonathan Cave, Boston Architectural College, Master of Landscape Architecture Candidate
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Abstract

Uncertainty of future coastline geophysical conditions is increasingly magnified by the growing severity of acute and chronic weather events induced by climate change. In the face of these threats, 21st century coastal human relationships will be of temporality, of response and recovery, and of restoration. These dynamics will require visual exploration of theoretical conditions within the built environment, and application of these conditions to future scenarios. Building information modeling technology currently used within the field of architecture and engineering can offer a framework which can be further applied to inform modeling and simulation of natural systems, supporting exploration of the interplay between infrastructural and ecological elements through data-driven models and simulations.

This research examines the development of an interdisciplinary three-dimensional visual modeling methodology used to simulate erosion, storm surges, and sea level rise of a beach community in southern Rhode Island. Using historic data of coastal conditions for Misquamicut, Rhode Island, the researchers identified patterns of coastal change. These patterns were then modeled and visualized, and flow dynamics of granular materials were applied to simulate a variety of future conditions which incorporated hydrological dynamics along the Rhode Island shoreline. The resulting sedimentation and erosion patterns were translated into an emergent modeling methodology which can be applied to numerous coastal conditions. The use of this methodology by landscape architects and allied professions can improve testing of a design concept through accurate portrayals of environmental systems and scenarios. These efficiencies will be critical to the success of ecological design in the face of 21st-century environmental issues.

U3D-DSS: A Novel Decision Support System for Community Directed Green Infrastructure Design

Mark Lindquist, Victoria Campbell-Arvai, Alec Foster, Shannon Sylte, and Frank Deaton, University of Michigan

Abstract

Green infrastructure (GI) can have a positive ecological and social contribution in urban environments and is also seen as an essential component in efforts to rebuild the resilience of legacy cities. Despite the recognized importance of GI there is a missed opportunity to more fully involve residents in GI planning and design, which can lead to more successful and resilient outcomes. Integrating the concept of ecosystem services (ES) into public participation processes can enhance outcomes but requires robust decision support systems (DSS) that can more effectively incorporate community needs. Complicating this integration is the challenge that the value of specific urban ES will vary greatly both between and within cities, influenced by the environmental and socio-economic characteristics of the community in question. As such, collaboration and engagement with community members to specify the ES that are important and meaningful to them must be a part of any GI imitative and requires a DSS that is flexible and adaptable to different communities and contexts. This paper describes the development of a novel DSS that uses Structured Decision Making to identify stakeholder needs which are then incorporated into a 3D visualization based DSS using the Unity game engine. The DSS is evaluated in the context of a Greenway planning and design project in the City of Detroit that included multiple stakeholders with varying interests and the success of the DSS assessed. The paper ends with the identification of future research needs.

Emerging Technologies for Visual Resource Management

Jason Pfaff and Shawn Jackson, Applied Technologies Group at POWER Engineers, Inc.

Abstract

Jason Pfaff and Shawn Jackson will present the latest tools and emerging technology for Visual Resource Managers. The presentation will cover Augmented Reality, Virtual Reality, Drones and advanced visualization technology to help analyze, design and plan for new projects in the seen environment. Used with traditional visual management systems - in the field or for desktop review - the tools can better promote best practice and facilitate better communication to the public and regulatory agencies.

Session 6b (Thursday 9:45-11:30 AM, Rm. E1100/1200)

Visual Impact Mitigation

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Effective Integration of Visual Analyses, Mitigation, and Reclamation for Linear Projects

Craig Johnson, Environmental Planning Group, LLC cjohnson@epgllc.co

Abstract

With the recent approval of several large-scale transmission lines and pipeline analyses that are now moving toward construction, it is critically important to assure that these projects are implemented based on the findings and assumptions within their associated impact analyses. Although this seems an obvious next step, it has not always occurred successfully on past projects, and can be a challenging endeavor depending on how analysis findings and mitigation measures are applied and tracked. More specifically, degrees of impact and application of mitigation measures are often described in text, and/or on forms that do not specifically delineate what portions of the project features they relate to. This paper focuses on effective and proven methods for not only analyzing visual impacts to linear projects, but also structuring the analyses for ease in successfully carrying mitigation measures through the design, planning, construction, and reclamation processes.

Mitigating Visual Impacts of Utility-Scale Energy Projects

Joseph Donaldson, ASLA, PLA, Ecology and Environment, Inc. jdonaldson@ene.com

Abstract

Visual resources are often a focal point of controversy and uncertainty and are becoming a growing concern for agencies, developers, and the public alike for the variety of utility-scale energy projects, including transmission, substation, power plant, and renewable energy projects. Agencies are increasingly challenged to interpret and enforce regulations for visual resources and balance multiple and often conflicting purposes for public lands. Developers are challenged by uncertainties about visual impacts of their proposed projects, often strong public reactions and opposition, and how impacts can best be mitigated cost-effectively. The public is most often concerned about impacts to views, changes to visual character and quality, and the effects of these on their property values and quality of life. Developers and utilities are finding that facility sites and potential transmission routes are increasingly constrained and agency requirements for mitigating visual impacts are expansive and costly. This paper focuses on approaches, processes, and techniques for mitigating visual impacts of utility-scale energy projects and explores the effectiveness of some commonly employed mitigation techniques.

Reclaiming Visual Stewardship in Tucson, Arizona—Is It Possible?

Ellen Barth Alster, Senior Landscape Architect, Pima County Department of Transportation
Ellen.Alster@pima.gov

Abstract

The Sonoran Desert landscape encompassing Tucson, Arizona consists of sweeping skies punctuated by mountain ranges and saguaro silhouettes. As development occurred a few decades ago, land use codes and design practices arose to protect this unique scenery. As the generation of practitioners who developed these codes and practices retired, the existing codes have been ineffectual at integrating utility planning and design into the urban landscape. Using Tucson as an example, this paper discusses the decline of visual stewardship and impediments towards improvement. Utility poles, which are becoming the dominant element in the Tucson skyline, are the primary focus. As newer requirements have translated into increasingly larger poles, previous mitigation practices that integrated poles into the landscape were discontinued. Whether this was a conscious and deliberate urban design decision agreed upon among utilities, local government and the public is unclear. Additionally, old poles remain years after they are replaced, cluttering urban streets.

In contrast with Tucson's eroding visual stewardship related to utility design, it remains a priority for some communities. Which are these communities and how have they been successful? How has the energy industry begun to lead visual stewardship and what has caused them to do so?

Surface Color Treatment of Transmission Line Structures

Brandon Colvin, Landscape Architect, Bureau of Land Management bcolvin@blm.gov

Abstract

With the increasing need for reliable energy infrastructure in the United States, the once natural openness of the Wild West has now evolved to a web of infrastructure scattered across the landscape. BLM public lands managed under a multiple-use mission are no exception to this rapid expanse of development.

While projects built on BLM land go through in-depth environmental analysis, including making recommendations for proper design features and mitigation measures to reduce impacts to visual resources, it is often difficult for BLM staff to solidify the full implementation of these measures. This is sometimes a result of BLM staff not having the expertise or tools necessary to simulate design features and mitigation measures. Having a visual simulation to show the net gain these measures provide in reducing impacts to visual resources is an invaluable asset in project development.

This presentation captures the process that the BLM followed to warrant the color treatment of transmission structures on a recent 500kV transmission line through a highly scenic and publicly sensitive landscape. It will highlight the process of using 2D visual simulation techniques to conduct a color analysis of the natural landscape. It will also demonstrate how utilizing these techniques proved an invaluable source of information in aiding BLM decision makers in selecting the most appropriate surface color treatment for the structures of this project.

LODGING INFORMATION

Argonne Guest House
Building 460
9700 South Cass Avenue
Lemont, IL 60439
Phone: (630) 739-6000

The Argonne Guest House is located onsite. An Argonne visitor's pass is required to enter the Argonne facility. The room rates are $88.40 for single occupancy or $98.80 for double occupancy. Mention the group name – Visual Resources Stewardship. https://www.anlgh.org/

The following hotels are located near Argonne National Laboratory. The hotels offer group rates for conference attendees.

Chicago Marriott Southwest at Burr Ridge
1200 Burr Ridge Pkwy, Burr Ridge, IL 60527
Phone: (630) 986-4100
http://www.marriott.com/hotels/travel/chisw-chicago-marriott-southwest-at-burr-ridge

Chicago Marriott Southwest at Burr Ridge is a 16-minute drive from the conference facility.
A group rate for Argonne Visual Resource Stewardship Conference is available.

Aloft Bolingbrook
500 N Janes Avenue, Bolingbrook, Illinois 60440
Phone: (630) 410-6367
http://www.aloftbolingbrook.com/

The Aloft Bolingbrook is a 15-minute drive from the conference facility.
A group rate for Argonne Visual Resource Stewardship Conference is available.

SpringHill Suites by Marriott Chicago Bolingbrook
125 Remington Blvd, Bolingbrook, IL 60440
Phone: (630) 759-0529
http://www.marriott.com/hotels/travel/chibl-springhill-suites-chicago-bolingbrook

SpringHill Suites Bolingbrook is a 15-minute drive from the conference facility. A group rate for Argonne Visual Resource Stewardship Conference is available.

For additional information, contact Robert Sullivan, 630-252-6182, vrconference@anl.gov.

FOR MORE INFORMATION

For additional information about the conference, including questions about registration, directions, lodging, and presentations, contact Robert Sullivan, 630-252-6182, vrconference@anl.gov.